CITY OF SANTA BARBARA

COUNCIL AGENDA REPORT

AGENDA DATE: February 28, 2006

TO: Mayor and Councilmembers

FROM: Creeks Division, Parks and Recreation Department

SUBJECT: Creeks Division Capital Program Update

RECOMMENDATION:

That Council receive a presentation on the Creeks Restoration and Water Quality Division Capital Program.

EXECUTIVE SUMMARY:

Since its inception in 2001, water quality treatment and creek restoration capital projects have been a key program in the Creeks Restoration and Water Quality Division (Creeks Division). Over the last 5 years, the Creeks Division has developed and implemented a number of projects designed to capture and filter pollutants from storm water and urban runoff, remove non-native invasive plants, restore riparian and aquatic habitat, stabilize creek banks, and accomplish other objectives. Many of these projects are intended to serve as pilot projects to evaluate the efficacy of different water treatment systems to remove pollutants and demonstrate creek restoration techniques.

Specific types of water quality treatment projects include catch basin and storm drain filtration systems, storm drain diversions, ultraviolet light treatment facilities, bioswales and constructed wetlands. Two large creek restoration projects include the restoration of Old Mission Creek at Bohnett Park and the Arroyo Burro Estuary and Mesa Creek Restoration Project. Small creek steward projects for Sycamore and Mission Creeks have been underway since 2004. A monitoring and performance assessment program evaluates the effectiveness of the restoration and water-quality treatment projects in reducing pollutant levels and improving habitat quality.

Since the inception of the Creeks Division in Fiscal Year 2001, approximately $2,852,500 has been set aside for the capital program. Of this amount, $2,493,500 represents revenues from Measure B, and $359,000 was transferred from the General Fund when the Division was established. The Creeks Division has also obtained $3,280,000 in local, state, and federal agency grant funds, for a total of $6,132,500.

REVIEWED BY: _____Finance _____Attorney

Agenda Item No._____

DISCUSSION:

Background

Since its inception in 2001, water quality treatment and creek restoration capital projects have been a key program in the Creeks Division. The capital program has a number of goals and objectives including, to:

- Reduce, remove, and treat sources of urban pollution.
- Improve creek and coastal ocean water quality for recreational ocean users and aquatic ecosystems.
- Restore riparian areas and wetland systems.
- Demonstrate riparian restoration and natural treatment strategies.
- Develop community awareness of and support for reducing sources of pollution, and protecting and enhancing creek systems.
- Provide passive recreation and youth educational opportunities.

To achieve these goals, over the last 5 years, the Creeks Division has developed and implemented a number of projects designed to capture and filter pollutants from storm water and urban runoff, remove non-native invasive plants, restore riparian and aquatic habitat, stabilize creek banks, and accomplish other objectives. In addition to input from the City Council, Creeks Advisory Committee, and annual public community forums, the 2000 Creek Inventory and Assessment Study and the 2003 Arroyo Burro and Mission Creek Bacterial Reduction Study have provided guidance for the selection and implementation of capital projects. The Creeks Division has also targeted potential projects based on known water quality hot spots, available grant funds, and recommendations from other organizations and agencies addressing similar water quality and creek restoration issues.

Water Quality Treatment Projects

There are a number of water quality treatment systems that can be used to address urban pollutants in storm water and urban runoff. The design and installation of different treatment systems depend on the pollutant to be addressed, infrastructure and land requirements, installation location, and cost and maintenance requirements. Known pollutants of concern in Santa Barbara include fecal indicator bacteria, trash, sediment, oil and grease, some metals, and pesticide, fertilizer, and soap residues, among others. Pollutants such as oil and grease, sediment, and trash can be captured in catch basin inlet and storm drain filters. Fecal indicator bacteria can be removed by ultra violet light and ozone treatment systems. Bioswales and constructed wetlands are increasingly being designed to capture and filter pesticide and fertilizer residues as well as other pollutants, including metals and fecal indicator bacteria. The table on page 4 illustrates some of the more significant water quality treatment projects. The following discussion provides more detail about the capital projects currently under development.

Storm Drain Diversion Projects
Projected cost: $680,000

Key projects that are currently underway include the storm drain diversion projects in the Hope Avenue and Haley Street storm drains. These projects are currently under construction and will be complete at the end of February 2006. The purpose of the projects is to divert polluted dry weather urban runoff from City storm drains to the sanitary sewer system for treatment at the El Estero Wastewater Treatment Facility. Both locations are known to have high levels of indicator bacteria which contribute to poor creek water quality and beach warnings at Arroyo Burro and East Beaches. The projects are designed for dry weather flows and both sites will operate from April 1 to October 31 each year, pending the end and start of the winter rains.

Westside Summer Urban Runoff (SURF) Project
Projected cost: $1.15 million

The purpose of the Westside SURF project is to divert water in the Westside Storm Drain during dry weather (summer) conditions to an ultraviolet (UV) light treatment facility to eliminate microorganisms, including pathogenic bacteria and viruses. The need for the facility is based on the high levels of indicator bacteria as well as trash and sediment found in the storm drain runoff. The Westside Storm Drain catches urban runoff from 632 acres of the Upper Westside neighborhood and surrounding hillsides, and discharges into Old Mission Creek at Bohnett Park. Final design of the Westside Summer Urban Runoff Facility was complete in early February 2006, and it is anticipated that project construction will begin in May 2006.

Storm Water Management Projects
Estimated cost: $2.8 million

The Creeks Division is also currently developing conceptual and preliminary designs for 2 storm water management projects. These projects are located at the Santa Barbara Golf Club and within Old Mission Creek at West Figueroa. The primary purpose of the Las Positas Storm Water Management Project is to detain and treat storm water and incidental runoff at the Santa Barbara Golf Club in order to improve water quality downstream in Las Positas Creek, the Arroyo Burro Estuary, and Arroyo Burro Beach. The secondary purpose is to reduce peak storm flows in order to facilitate the installation of downstream creek restoration and/or water quality treatment projects. It is anticipated that the preliminary design for this project will be complete in June 2006.

Similarly, the primary goal of the Old Mission Creek Storm Water Management Project is to detain and filter polluted storm water and incidental urban runoff in order to improve water quality downstream in Old Mission Creek as well as Mission Creek and ultimately, East Beach. Secondary goals are to improve native plant and animal habitat, reduce creek bed/bank erosion, and detain storm water in order to incrementally reduce

downstream flow rates into Mission Creek. Located in the West Figueroa right-of-way in the Westside neighborhood, the development of feasibility studies and conceptual design plans began in January 2006 and are expected to be complete in June 2006.

Table 1. Water Quality Treatment Projects

Project	Location and Watershed	Targeted Pollutants	Date Installed
Haley Storm Drain Filter	Haley Street storm drain, Mission Creek	Oil and grease, sediment, trash (wet and dry weather)	2002
Old Mission Creek Bioswale	Bohnett Park, Mission Creek	Fecal indicator bacteria, oil and grease, pesticides, sediment (wet and dry weather)	December 2004
150 catch basin filters	Various locations, Sycamore and Mission Creek	Oil and grease, sediment, trash (wet and dry weather)	2002-2005 and ongoing
Storm Drain Diversion	Hope Ave storm drain, Arroyo Burro	Fecal indicator bacteria (dry weather)	January 2006
Storm Drain Diversion	Haley Street storm drain, Mission Creek	Fecal indicator bacteria (dry weather)	February 2006
Ultra violet light facility	Westside Storm Drain, Mission Creek	Fecal indicator bacteria (dry weather)	May 2006
Las Positas Storm Water Management	Santa Barbara Golf Club, Arroyo Burro	Fecal indicator bacteria, sediment, oil and grease, others (wet and dry weather)	Still in design, anticipated construction spring 2007
W. Figueroa Storm Water Management	Old Mission Creek at West Figueroa, Mission Creek	Fecal indicator bacteria, sediment, oil and grease, others (wet and dry weather)	Still in design, anticipated construction spring 2008

Creek Restoration Projects

In the last five years, the Creeks Division has undertaken the development of two large creek restoration projects and three small neighborhood creek improvement projects. In addition, as discussed above, the secondary goals of the Old Mission Creek Storm Water Management Project include creek restoration elements such as the improvement of native plant and animal habitat and the reduction of creek bed/bank erosion. All of the creek restoration projects include water quality improvement objectives. The focus of

creek restoration efforts to date has been on City-owned land within City parks and parcels as well as street right-of-ways.

Old Mission Creek at Bohnett Park
Total project cost: $900,000

The first restoration project to be undertaken by the Creeks Division was the restoration of Old Mission Creek at Bohnett Park. Completed in December 2003, the project included the restoration of degraded riparian habitat with over 4,000 grasses, shrubs and trees, construction of 2 bioswales, stabilization of creek banks, creek crossings, and enhanced open space for passive recreation. The project has won awards from Santa Barbara Beautiful, the California Water Policy Conference and the California Park and Recreation Society. The site is used on a weekly basis as a learning laboratory for school children.

Arroyo Burro Estuary and Mesa Creek Restoration
Projected cost: $1.6 million

The Creeks Division has been working on the Arroyo Burro Estuary and Mesa Creek Restoration Project since 2002. Located within the Douglas Family Preserve (DFP), the project will restore coastal estuarine, riparian and coastal sage scrub habitats, and improve water quality in Mesa Creek, the estuary and at Arroyo Burro Beach. The project involves removing a concrete culvert to "daylight" Mesa Creek, stabilization of creek banks, and construction of new trails and a footbridge to the DFP. Non-native plants will be removed and 5,000 native plants and trees planted. The project also involves expanding the estuary to benefit the endangered Tidewater Goby and fish passage enhancements to benefit the endangered Steelhead Trout. Project design and permitting were complete in 2004. Although project construction was delayed due to high construction bids, it is anticipated that full construction of the project will begin in June 2006.

Las Positas Valley Restoration

The City of Santa Barbara owns an almost 6-acre parcel in the Las Positas Valley that is adjacent to and within Arroyo Burro Creek. The Creeks Division Capital Program includes funds to prepare preliminary designs and technical studies for the restoration of this parcel. While a work program was developed in fall 2004, design work has not proceeded because it is dependent on the outcome of the Veronica Meadows residential development project.

Neighborhood Creek Steward Projects
Annual projected cost: $25,000

In addition to large-scale creek restoration projects, the Creeks Division has been working with neighborhood groups, Santa Barbara Beautiful, youth apprentice and elementary after school programs, and City residents to implement small-scale creek improvement and beautification projects. First focused in the summer of 2004 on Sycamore Creek at

Cacique and Soledad in the lower Eastside neighborhood, the program expanded in summer 2005 to include Sycamore Creek at Liberty Street and Punta Gorda as well as Mission Creek along Vernon Road in the Samarkand neighborhood. These projects include the removal of non-native weeds and overgrown trees and the replanting with native shrubs and trees. In addition to improving the aesthetic appearance of the creek banks, the projects improve wildlife habitat. The purpose of the projects is to also discourage dumping and encampments.

Table 2. Creek Restoration Projects

Project	**Location and Watershed**	**Project Elements**	**Status**
Old Mission Creek Restoration at Bohnett Park	Westside neighborhood, Mission Creek	Restoration of riparian habitat with 4,000 grasses, shrubs and trees, construction of two bioswales, stabilization of creek banks, creek crossings.	Completed in December 2003
Arroyo Burro Estuary and Mesa Creek Restoration	Douglas Family Preserve, Arroyo Burro County Park, Arroyo Burro	Daylighting of Mesa Creek, non-native removal, replanting with over 5,000 native plants, trails and footbridge, estuary expansion and fish passage.	Construction to being in June 2006
Las Positas Valley Restoration	Open space parcel in the Las Positas Valley, Arroyo Burro	Stabilization and repair of creek banks, arundo removal, and riparian planting.	Work plan completed in fall 2004.
Sycamore Creek at Cacique and Soledad, and at Liberty and Punta Gorda	Sycamore Creek, lower Eastside neighborhood	Creek clean-up. Removal of non-native weeds and trees, replanting with 1,400 trees and shrubs	Summer 2004 and summer 2005
Mission Creek at Vernon Road	Samarkand neighborhood, Mission Creek	Creek clean-up. Removal of non-native weeds and trees, replanting with 287 trees and shrubs.	Summer 2005

Project Monitoring and Performance

With the completion of a number of capital projects, the Creeks Division initiated a project monitoring and performance assessment program. The purpose of the program is to evaluate the effectiveness of the City's restoration and water-quality treatment projects in reducing pollutant levels and improving habitat quality. The program includes monitoring for indicator bacteria and chemical pollutants at weekly, monthly, and quarterly intervals upstream and downstream of project sites. Habitat quality is also assessed with tests for temperature, PH, turbidity, dissolved oxygen, conductivity, and salinity whenever bacteria samples are collected. To better understand overall habitat and water quality, the Creeks Division also undertakes an annual monitoring program for benthic macro-invertebrates in Arroyo Burro, Mission, and Sycamore Creeks. Since these monitoring efforts have only been in place for a few years, additional data will be needed before the effectiveness of the projects can be assessed.

In addition to water quality monitoring, the Creeks Division has been conducting annual plant surveys to measure the success of the Old Mission Creek restoration project at Bohnett Park. Although the surveys are required for compliance with the project permit approvals, they also provide an opportunity to assess whether the project's habitat improvement goals are achieved. As an example, recent bird surveys have shown the restoration site has a high diversity of bird species relative to other urban parks and that it may be attributed to the recent restoration efforts.

Long-Term Capital Program Strategy

With the successful implementation of a number of key capital projects and a project monitoring and performance program, the Creeks Division will be developing a long range strategy for future projects. The work effort will begin in spring 2006 in preparation for the next 2-year budget cycle. The strategy will be developed in coordination with the Engineering, Water Resources, and Streets Divisions of the Public Works Department and the Parks and Golf Divisions of the Parks and Recreation Department. These divisions are critical to this discussion since they will assist in the design, implementation, and maintenance of the capital improvements. Through public meetings, the Creeks Advisory Committee and the general public will participate in the development of the strategy. The draft watershed existing conditions study, prepared by Questa Engineering, will provide additional technical background to focus the identification of water quality and creek restoration opportunities through capital infrastructure improvements.

BUDGET/FINANCIAL INFORMATION:

From Fiscal Year 2001 through Fiscal Year 2006, approximately $2,852,500 has been set aside for the capital program. Of this amount, $2,493,500 represents revenues from Measure B, and $359,000 was transferred from the General Fund in Fiscal Year 2001 when the Division was established. The Creeks Division has also obtained $3,280,000 in local, state, and federal agency grant funds. Granting agencies include the California

Coastal Conservancy, California Department of Parks and Recreation, California Resources Agency, California Wildlife Conservation Board, United States Department of Fish and Game, United States Department of Housing and Urban Development, and the Santa Barbara County Coastal Resources Enhancement Fund. The total funds set aside for capital projects and matched with grants has been $6,132,500.

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APPROVED BY: City Administrator's Office